UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/804,244	03/13/2001	Motoyuki Kato	G5030.0027/P027	9167

24998 7590 07/26/2005

DICKSTEIN SHAPIRO MORIN & OSHINSKY LLP
2101 L Street, NW
Washington, DC 20037

EXAMINER	
RUTTEN, JAMES D	

ART UNIT	PAPER NUMBER
2192	

DATE MAILED: 07/26/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/804,244	KATO ET AL.	
	Examiner	Art Unit	
	J. Derek Rutten	2192	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *19 April 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-5,11-13 and 15-19* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-5,11-13 and 15-19* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 19 January 2005 has been entered.

2. Acknowledgement is made of Applicant's amendment dated 19 January 2005, responding to the 19 October 2004 Office action provided in the rejection of claims 1-19, wherein claims 1-5, 11-13 and 15-19 have been amended, claims 6-10 and 14 have been canceled, and no new claims have been added. Claims 1-5, 11-13, and 15-19 remain pending in the application and have been fully considered by the examiner.

Response to Arguments

3. Applicant's arguments on pages 6-8 of the reply fail to comply with 37 CFR 1.111(b) because they amount to a general allegation that the claims define a patentable invention without specifically pointing out how the **language of the claims** patentably distinguishes them from the references.

4. In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., "additional

links" – page 7 paragraph 2; no increase of start time – page 7 paragraph 4) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

5. Applicant argues on page 9 that Tock does not disclose or suggest the use of an index. As pointed out in the Final Office action at the top of page 9, Tock uses a pointer as an index into the field table (column 7 lines 16 and 17 and FIG. 6 element 636). However, as applicant points out in the last paragraph on page 9 continuing on page 10, Tock does not disclose where the second reference data comprises an index. This argument is persuasive, and the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of U.S. Patent 6,338,160 to Patel et al.

Claim Rejections - 35 USC § 112

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

7. Claims 1 and 11-13 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

8. Claim 1 recites the limitation "the code entry" and "the instruction" in line 9. There is insufficient antecedent basis for this limitation in the claim.

9. Claims 11-13 are rejected as being dependent upon a rejected base claim.

Claim Rejections - 35 USC § 103

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

11. Claims 1-5, 11-13, and 15-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over prior art of record U.S. Patent 5,815,718 to Tock (hereinafter referred to as "Tock") in view of prior art of record U.S. Patent 6,338,160 to Patel et al. (hereinafter "Patel").

As per claim 1, Tock discloses:

A program executing method to execute a program written in an interpreter language - See Abstract, lines 1-5:

> A **method** and system for providing an **executable module** having an address space for storing program data that is to reside in a read-only storage medium and an address space for storing program data that is to reside in a random access memory is herein described.

comprising the steps of:

extracting reference data comprising a first and second reference data, said reference data is used for specifying a location to be accessed in a memory, and resolving a reference using said reference data – See column 5 lines 56-60:

> The object module is then transmitted to the linker 136 which **generates a memory layout** for the classes in the application. Once the memory layout is determined, the linker 136 **resolves all symbolic references** and replaces them with **direct addresses.**

said first reference data comprising a resolved class related reference data and said second reference data comprising a resolved field related reference data – See column 7 lines 45-52:

> A **first entry contains the name of the class** and the name of the superclass 502. These names are stored as string constants and the first entry contains pointers to the locations of these strings in the constant pool. **The next entry pertains to the fields** or instance variables. A header 504 is used to denote the number of fields in the constant pool. The various fields 506 follow the header.

Further, see element 636 in FIG. 6, which shows an index into a resolved field block implemented using a pointer.

storing result data of said resolved reference linking to said program in a code entry specified by an instruction, said two steps of extracting and storing being executed before said program is executed – See column 3 lines 19-22, column 5 lines 58-60, 65-67, and column 8 lines 8-13:

> A browser partitioned in this manner can be **initially stored in the read-only memory** of the client computer. When the system powers on, the second address space is preloaded into the RAM.
> ...
> Once the memory layout is determined, the linker 136 **resolves all symbolic references and replaces them with direct addresses**.
> ...
> The output from the linker 136 is a **preloadable executable module** 306 containing the methods and data for these two address spaces.
> ...
> Once the linker has determined the memory layout for the classes, the linker replaces the non-quick format of the invoke method instruction by the quick format which directly references the method (i.e., by storing the method's address). By resolving the symbolic reference, the method can be preloaded.

Comment: The executable module output from the linker contains the result data of the resolved reference. A code entry specified by an instruction that previously held a symbolic reference would then contain result data of a resolved reference. This module is executed only after the steps of extracting, resolving, and storing as referenced above.); *and*

specifying a location in said memory to be accessed based on said result data of said resolved reference linking to said program through said reference data, when said program is executed which requires to access said memory – See column 2 lines 7-11:

> By **executing** a large portion of the browser from read-only memory, the browser has additional RAM storage to store information-content and executable modules that it can obtain from other server computers that the client is in communication with.

Comment: In this passage, Tock executes an application built using the result data obtained via the above mentioned steps including resolving references using reference data to produce result data. Execution inherently involves specifying memory locations otherwise the processor would not be able to obtain required data.).

Tock further utilizes the general concept of an index. See FIG. 6 elements 636 which index field block entries in element 614. Tock does not expressly disclose where the second reference data comprises *an index to a resolved field related reference data.* However, in an analogous environment, [US 6,338,130 B1] teaches that data in a constant pool can be used as an index to a resolved field related reference data. See column 7 line 64 – column 8 line 1:

> If the bytecode does reference a constant pool, in step 124, data is obtained from the specific data structure, i.e. the constant pool, including data from a resolution data field. The data from the resolution data field is used as an index to a jump table.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use Patel's index with Tock's second reference data. One of ordinary skill would have been motivated to use an index to access data stored in a table.

As per claim 2, Tock discloses:

An information processing device provided with a program written in an interpreter language – See column 2 lines 53-55:

> An **application** developed in the **Java programming language** is executed on such a client **computer**.

comprising:

a storing means to store result data of a resolved reference linking to said program in a code data entry specified by an instruction, wherein reference data used to obtain the result data comprises a first and second reference data, at least one of said reference data to specify a location in a memory to be accessed – See column 5 lines 56-60 and 65-67:

> The object module is then transmitted to the linker 136 which **generates a memory layout** for the classes in the application. Once the memory layout is determined, the linker 136 **resolves all symbolic references** and replaces them with **direct addresses**.
> ...
> The output from the linker 136 is a preloadable **executable module** 306 containing the methods and data for these two address spaces.

Further, see FIG. 3 element 306: ROM/RAM; Comment: A code entry specified by an instruction that previously held a symbolic reference would contain result data of a resolved reference. The executable module contains the code entry and result data for specifying memory locations, and is stored as is shown in FIG. 3, in ROM and RAM.)*;*

wherein said first reference data is determined based on class data and said second reference data comprises an index value for one or more field data – See column 7 lines 16-17:

> ...an array of one or more pointers 636, **each pointer referencing a field block**;

Pointer 636 serves as an index into the field table. Further, see column 7 lines 45-52:

> A **first entry contains the name of the class** and the name of the superclass 502. These names are stored as string constants and the first entry contains pointers to the locations

> of these strings in the constant pool. **The next entry pertains to the fields** or instance variables. A header 504 is used to denote the number of fields in the constant pool. The various fields 506 follow the header.

a program executing means to execute said program, which specifies said location in said memory to be accessed based on said result data of said resolved reference linking to said program through said reference data, when said program is executed which requires access to said result data – Column 2 lines 53-55 cited above describes a program executing means.

Tock further utilizes the general concept of an index. See FIG. 6 elements 636 which index field block entries in element 614. Tock does not expressly disclose where the second reference data comprises *an index to a resolved field related reference data.* However, in an analogous environment, [US 6,338,130 B1] teaches that data in a constant pool can be used as an index to a resolved field related reference data. See column 7 line 64 – column 8 line 1:

> If the bytecode does reference a constant pool, in step 124, data is obtained from the specific data structure, i.e. the constant pool, including data from a resolution data field. The data from the resolution data field is used as an index to a jump table.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use Patel's index with Tock's second reference data. One of ordinary skill would have been motivated to use an index to access data stored in a table. All other limitations in this section have also been addressed in the above passages.

As per claim 3, the above rejection of claim 2 is incorporated. Tock further discloses:

An information processing device according to claim 2, wherein said program comprises

an object program in byte code and data which represent the content of reference data linked to said program (column 3 lines 46-49; column 4 lines 25-29; column 5 lines 65-67), *and*

said program executing means stores said result data of said resolved reference in a link reference field provided for linking to said object program (column 9 lines 7-12).

As per claim 4, the above rejection of claim 3 is incorporated. Tock further discloses:

An information processing device according to claim 3, wherein

said link information provided for linking to said object program contains code data of a number of fixed lengths (column 6 lines 22-26), *and*

said result data of said resolved reference is stored in a predetermined location determined by head code data (column 7 lines 47-49).

As per claim 5, the above rejection of claim 4 is incorporated. Tock further discloses:

An information processing device according to claim 4, wherein said object program and said link information are read out of a ROM at the time of executing said program (column 3 lines 19-20).

In regard to claim 11, the above rejection of claim 1 is incorporated. Tock further discloses: *wherein said reference data further comprises a third reference data* (FIG. 6 element 634).

In regard to claim 12, the above rejection of claim 11 is incorporated. All further limitations have been addressed in the above rejection of claim 11.

In regard to claim 13, the above rejection of claim 12 is incorporated. All further limitations have been addressed in the above rejection of claim 11.

In regard to claim 15, the above rejection of claim 2 is incorporated. All further limitations have been addressed in the above rejection of claim 6.

In regard to claim 16, the above rejection of claim 2 is incorporated. Tock further discloses: *a third reference data, said third reference data comprising a first data structure for storing character data and a second data structure for storing data indicating a position within said first data structure for storing character data* (FIG. 6 elements 618 and 620).

As per claim 17, the above rejection of claim 2. All further limitations have been addressed in the above rejection of claim 11.

As per claim 18, the above rejection of claim 3 is incorporated. All further limitations have been addressed in the above rejection of claim 4.

As per claim 19, the above rejection of claim 3 is incorporated. All further limitations have been addressed in the above rejection of claim 4.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to J. Derek Rutten whose telephone number is (571) 272-3703. The examiner can normally be reached on T-F 6:00 - 4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tuan Q. Dam can be reached on (571) 272-3695. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

jdr

TUAN DAM
SUPERVISORY PATENT EXAMINER